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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Chang-wan Hong

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EXAMINER

NATNAEL, PAULOS M

ART UNIT

PAPER NUMBER

2614

DATE MAILED: 01/14/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/725,905

Applicant(s)

HONG ET AL.

Examiner

Paulos M. Natnael

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2 and 4-7 is/are allowed.
- 6) ☒ Claim(s) 8-14 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 15-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims **8-11, and 20** are again rejected under 35 U.S.C. 102(e) as being anticipated by Jung, U.S. Pat. 6,456,341.

Considering Claim **8**, a cathode ray tube (CRT) assembly of a projection television, comprising;

a) a CRT⁵⁰ for creating an image, is met by CRT 50, fig.5.

b) a lens⁽⁶⁰⁾ for magnifying the image produced by said CRT and for projecting the image onto a screen, is met by the Lens 60, Fig.5;

c) a coupler⁽⁷⁰⁾ disposed between said CRT and said lens, coupling said lens to said CRT, defining a receptacle filled with a cooling liquid, is met by the coupler 70, fig.5;

d) an inlet⁽⁷²⁾ formed on one side of said coupler, and communicating with said receptacle, is met by coolant injection hole 72, fig.5;

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e) a pack unit coupled to said inlet, and including a pack, a pack holder disposed between said pack and said inlet, and having a first end coupled to an open portion of said pack and a second end coupled to said inlet, a through hole formed inside said pack holder and communicating with both said pack and said receptacle, is met by the disclosure that "the oil cap 80 can be deformed into a concave shape when coolant C expands according to changes in pressure of a coolant receiving portion 71." (col. 3, lines 38-41)

Considering Claim 9, the CRT assembly of claim 8, wherein said pack unit is detachably attached to said inlet, is met by the disclosure that it is possible to remove "an oil cap holder from said coolant system and removing an oil cap from said coolant". (col. 6, lines 3-4)

Considering Claim 10, the CRT assembly of claim 8, wherein said pack is made of a flexible material and includes an open portion and a closed portion accommodating a portion of said cooling liquid flowing from said receptacle through said through hole.

Regarding claim 10, see rejection of claim 2;

Considering Claim 11, the CRT assembly of claim 10, wherein a volume of said pack varies in accordance with the portion of said cooling liquid flowing from said receptacle, is **inherent** because the volume change in the oil pack would be dependent upon whether the coolant expands or contracts.

Considering Claim **20**, a cathode ray tube (CRT) assembly, comprising:

- a) a CRT, is met by CRT 50, fig.5;
- b) a lens projecting an image produced by said CRT onto a screen, is met by 60, fig.5;
- c) a coupler disposed between said CRT and said lens for coupling said lens to said CRT, and having a receptacle filled with a cooling liquid, and having an inlet, is met by coupler 70, fig.5;
- d) a pack having a sealed portion and an open end, is met by oil cap 80, fig.5.
- e) a pack holder disposed between said pack and said coupler, and having a first end detachably attached to said inlet of said coupler, and having end coupled to said open second end of said pack, is met by cap holder 85, fig.5;
- f) a through hole formed on said first end and said second end of said pack holder, and communicating with both said receptacle and an interior of said sealed portion of said pack, is met by hole 72, fig.5;

3. Claims **8, 10-12, and 14** are rejected under 35 U.S.C. 102(e) as being anticipated by Takezawa et al., U.S. Pat. 6,130,497.

Considering Claim **8**, a cathode ray tube (CRT) assembly of a projection television, comprising;

- a) a CRT for creating an image, is met by CRT body 42, fig.7.

- b) a lens for magnifying the image produced by said CRT and for projecting the image onto a screen, is met by the Final Lens 45, Fig.7;
- c) a coupler disposed between said CRT and said lens, coupling said lens to said CRT, defining a receptacle filled with a cooling liquid, is met by the coupler 43, fig.7;
- d) an inlet formed on one side of said coupler, and communicating with said receptacle, is met by the liquid fill hole 53, fig.7;
- e) a pack unit coupled to said inlet, and including a pack, a pack holder disposed between said pack and said inlet, and having a first end coupled to an open portion of said pack and a second end coupled to said inlet, a through hole formed inside said pack holder and communicating with both said pack and said receptacle, is met by "diaphragm 51 for regulating the pressure of the cooling liquid 46" (col. 4, lines 13-14)

Considering Claim 10, the CRT assembly of claim 8, wherein said pack is made of a flexible material and includes said open portion and a closed portion accommodating a portion of said cooling liquid flowing from said receptacle through said through hole;

Regarding claim 10, see rejection of claim 2;

Considering Claim 11, the CRT assembly of claim 10, wherein the volume of said pack varies in accordance with the portion of said cooling liquid flowing from said receptacle, is met by **inherent**, because the volume change in the oil pack would be dependent upon whether the coolant expands or contracts.

Considering Claim **12**, the CRT assembly of claim 8, wherein said pack holder includes a first portion and a second portion which are perpendicular to each other, is also inherent because the pack holder would have portion to hold it together to the device.

Considering claim **14**, the claimed said pack holder comprising a supporting portion and a holding portion each disposed on a respective opposite side of said inlet after said holding portion has been inserted into said inlet, is also inherent because the pack holder would have portion to hold it together to the device.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims **9,13, 18, and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Takezawa et al. U.S. Pat. No. **6,130,497**.

Considering claim **9**, the CRT assembly of claim 8, said pack unit is detachably attached to said inlet of said coupler.

Regarding claim 9, Takezawa does not specifically disclose whether the pack unit is detachable. However, the Examiner takes Official Notice in that it is well known in the

art to removably or detachably attach unit on the main body of the pack system and, therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of Takezawa to removably attach the pack unit in order to mount and/or remove easily and conveniently.

Considering Claim **13**, the CRT assembly of claim 8, said first portion of said pack holder including a structure for rotating aid pack holder when said pack holder is connected to said inlet.

Considering Claim **18**, the CRT assembly of claim 14, further comprising a ring inserted between said supporting portion and said a side of said inlet to seal said inlet.

Regarding claim 18, Takezawa does not specifically disclose a ring. However, the Examiner takes Official Notice in that it is well known in the art that a ring around a screw, cork, or other such similar device would be inserted to prevent the liquid therein from leaking and seal any such inlet or hole. Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of Takezawa and provide a ring around the inlet and seal the inlet or hole, in order to prevent leaks.

Considering Claim **19**, the CRT assembly of claim 14, said through hole comprising a first hole portion formed inside of said first portion o said pack holder and a second hole

portion formed inside of said second portion of said pack holder, said first hole portion being perpendicular to said second hole portion.

Regarding claim **19**, see rejection of claim 12;

Response to Arguments

a) Applicant argues that the same argument applies [as in claim 1] to independent claims 8 and 20, as amended. However, claims 8 and 20 do not recite "a sealed space disposed between said sealed space and said cooling liquid pouring inlet". Only claim 1 does. Thus, the argument is not persuasive because Applicant is arguing something that is not found in the claims. The rejection of claims 8, 20 remains.

b) Applicant argues that Takezawa '497 is not disclosed as having a through hole, whereas the oilpack holder of the invention is recited as having a through hole for communication with both the receptacle and the sealed portion or sealed space of the oilpack. Furthermore, the lens fixing plate 50 is not disposed between a sealed space and a liquid pouring inlet, as also claimed.

However, again Takezawa discloses the coupler 43, fig.7 and the liquid fill hole 53, fig.7, which communicates with the receptacle, as well as the diaphragm 51 for regulating the pressure of the cooling liquid 46. Furthermore, as indicated above in connection to response in part (a), claim 8 does not recite a sealed space. Therefore, argument is unpersuasive.

Allowable Subject Matter

6. Claims **1,2,4-7** are allowable over the prior art.
7. Claims **15-17** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
8. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to disclose a CRT assembly comprising, a sealed space, a pack holder coupled to said cooling liquid pouring inlet, having a through hole communicating both a sealed space of said oilpack and said cooling liquid receptacle of said coupler, and an oilpack coupling means formed on said pack holder, coupling said pack holder to said cooling liquid pouring inlet of said coupler, as in claim 1; a protrusion formed on said inlet, a guiding slot into which said protrusion is inserted when said holding portion is inserted into said inlet, as in claim **15**;

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paulos M. Natnael whose telephone number is (703) 305-0019. The examiner can normally be reached on 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (703) 305-4795. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-HELP.

Paulos Natnael *pmn*
January 11, 2004


MICHAEL H. LEE
PRIMARY EXAMINER